

## **Proposed Concepts for Expenditure of \$25 Million for the Purchase of Low-Emission Construction Equipment for Public Agencies**

- For discussion at the November, 30, 2006 workshop -

*This is staff's proposal on allocation of \$25M for the purchase of low-emission construction equipment by public agencies. Due to legislative constraints, ARB must allocate these funds quickly and therefore the staff has put together a fairly detailed preliminary proposal. Due to this timing, the staff proposal relies on consistency with existing programs and regulations, such as the Carl Moyer Program and ARB fleet rules. Expedited input is appreciated to make this unique program a success.*

Construction equipment emits significant quantities of toxic diesel particulate matter and nitrogen oxides that form smog and particles in the atmosphere. Next year, ARB will be proposing a regulation for in-use off-road equipment which will apply to both public and private fleets. This funding will assist public agencies in providing leadership in cleaning up their fleets in advance of the rule, while also providing early emission reductions and relieving some of the financial burden.

### **1. Why is this funding available?**

In the 2006-2007 Budget Bill, \$25 million was allocated for the replacement of older school buses. The Budget Bill contained language that redirected these funds as grants to public agencies for the purchase of low-polluting construction equipment if the Transportation and Air Quality Bond, Proposition 1B, in the November 2007 election was approved.

Excerpted from 2006-2007 Budget Bill, AB 1801, Chapter 47, Statutes of 2006 (Chaptered on June 30, 2006).

Provisions:

2. Of the funds appropriated in this item, \$25,000,000 shall be available for grants to public agencies to purchase low-polluting construction equipment if the Transportation and Air Quality Bond is passed by the voters at the November 4, 2006, general election; otherwise, these funds are allocated for replacement of pre-1977 model-year school buses.

Proposition 1B provides \$200 million for the replacement and retrofit of school buses. On November 7, 2007, this proposition was approved; therefore a one-time allocation of \$25 million is now available for public agency construction fleets.

## 2. How is staff proposing to define “public agency”?

Staff is proposing to define “public agency” consistent with ARB’s On-Road Fleet Rule for Public Fleets and Utilities. Agencies that are subject to the rule are municipalities defined in section 2020, title 13 of the California Code of Regulations (CCR) as a city, county, city and county, special district, or a public agency of the United States or the State of California, and any department, division, public corporation, or public agency of this State or of the United States, or two or more entities acting jointly, or the duly constituted body of an Indian reservation or rancheria. Public fleets that are exempt from the On-Road Fleet Rule for Public Fleets and Utilities will not be eligible for this funding.

## 3. How is staff proposing to define “construction equipment”?

Staff is proposing to define “construction equipment” as heavy power machines which perform specific construction or demolition functions. This equipment is consistent with that included in the “construction” category of ARB’s OFFROAD emission inventory model and includes, but is not limited to, loaders, backhoes, paving equipment, cranes, rollers, trenchers, rough terrain forklifts, and crushing equipment. The following equipment will not be eligible for funding: farming equipment, aircraft ground support equipment, forklifts that are neither rough terrain nor powered by diesel engines, generator sets, scrubbers/sweepers, turf care equipment, and other industrial equipment. Staff is proposing to limit this funding to diesel equipment.

## 4. What are the available low-emission technologies for construction equipment?

Currently, there are two types of low-emission technologies available for construction equipment: exhaust retrofits and cleaner engines.

**Retrofits.** Retrofits, or diesel emission control strategies, are generally bolt-on systems which control emissions of particulate matter (PM) and oxides of nitrogen (NOx) from diesel-fueled engines. These strategies may include but are not limited to, diesel particulate filters, diesel oxidation catalysts, fuel additives, selective catalytic reduction systems, exhaust gas recirculation systems, and alternative diesel fuels. ARB verifies retrofits to reduce PM by 25% (Level 1), 50% (Level 2), or 85% (Level 3) and NOx if reductions are  $\geq 15\%$ . More information on retrofits verified by ARB may be found at <http://www.arb.ca.gov/diesel/verdev/verdev.htm>.

**Cleaner Engines.** Cleaner engines can be deployed either through replacement of just the old engine, referred to as repower, or replacement of the entire equipment. Prior to 1996, off-road diesel engines were unregulated and considered uncontrolled (or pre-Tier 1) engines. In 1996 the first phase of emission standards, referred to as Tier 1 standards, were implemented and primarily targeted oxides of nitrogen (NOx) emission reductions. The second and third phases of more stringent emission

standards, referred to as Tier 2 and Tier 3, are phased in and apply to the full range of diesel off-road engine power categories. The Tier 2 standards were completely phased-in during 2006. Tier 3 standards further reduce emissions of hydrocarbon (HC) and NOx and are scheduled to be phased-in starting in 2006 and finishing by 2008. More information on off-road engine standards may be found at <http://www.arb.ca.gov/msprog/offroad/orcomp/orcomp.htm>.

## **5. What types of projects are staff proposing be eligible for grants?**

Staff is proposing that grants would be provided for the cleanest available low-emission technology, which includes the following: A) purchase of the cleanest available construction equipment for the horsepower category, B) repower with the cleanest available engine for the horsepower category, or C) installation of a Level 3 retrofit.

**A. New equipment purchase.** Staff is proposing to allow replacement of fully-functioning uncontrolled (pre-Tier 1) equipment in the agency's current fleet with a new purchase of a similar piece of equipment. Priority would be given to purchases of equipment with Tier 3 engines. The old piece of equipment would have to be scrapped by the agency, or the agency could give their old piece of equipment to another agency which would in turn scrap an older piece of equipment. New purchases would also be required to install the best available retrofit at the time of application. If no retrofit is available, the project would still be eligible and no retrofit would be installed. New construction equipment purchases have traditionally not been eligible for incentive funding from ARB due to concerns about providing grants for equipment that would have been purchased anyway. In order to help the ARB staff to better understand the operating characteristics of the old and replacement equipment to develop future grant programs, public agencies would be required to provide historical information about the old equipment and operating information about the replacement equipment.

**B. Repower.** Staff is proposing that repowers would be limited to replacing an uncontrolled (pre-Tier 1) engine in the agency's current fleet the cleanest available engine for the horsepower category, either a Tier 2 or Tier 3 engine. Priority would be given to repowers with Tier 3 engines. The old engine would have to be scrapped by the agency. Repowers would also include installation of the best available retrofit at the time of application. If no retrofit is available, the project would still be eligible and no retrofit would be installed.

**C. Retrofits.** Staff is proposing that retrofits would be limited to ARB verified Level 3 retrofits of controlled equipment (Tier 1 engine or better). Priority will be given to retrofits that also provide NOx reductions.

**6. What criteria is staff proposing to use to choose projects?**

Projects will be selected through a Request for Proposal process and scored competitively against all other qualifying projects. Staff is proposing that projects will be ranked on the following:

- cost-effectiveness calculated using the emission factors and methodology described in the 2005 Carl Moyer Program Guidelines
- projects using a Tier 3 engine would receive additional points
- ozone and fine particulate matter non-attainment status of the area where the equipment is located
- project implementation plan
- application completeness.

Staff is not proposing any specific ranking criteria or point scheme at this time, but welcomes comments.

**7. Will any funds be set aside for agencies located in low-population areas?**

Municipalities located in a low population counties often have less access to revenue sources such as vehicle license fees, road tax, property taxes, sales taxes, etc. than those located in other areas in the state. These agencies often can not afford to turn over their fleet and the projects are usually not as competitive for grants as those in more urban areas because of the low usage of the equipment. Therefore, staff is proposing that 10 percent, or \$2.5 million, be set aside for rural agencies. Grants to these agencies would not be limited to 10 percent of the funds. Projects in low-population areas not funded with the 10 percent set aside would then compete with all other projects for additional funding. Staff is proposing to use the definition of low-population county in the On-Road Fleet Rule for Public Fleets and Utilities to define which agencies would be eligible for these funds. This would include a municipality that is headquartered in a county in the subsequent table.

**Low-Population Counties**

|           |           |            |          |
|-----------|-----------|------------|----------|
| Alpine    | Inyo      | Mono       | Sutter   |
| Amador    | Lake      | Nevada     | Tehama   |
| Calaveras | Lassen    | Plumas     | Trinity  |
| Colusa    | Mariposa  | San Benito | Tuolumne |
| Del Norte | Mendocino | Sierra     | Yuba     |
| Glenn     | Modoc     | Siskiyou   |          |

A municipality, as defined in the On-Road Fleet Rule for Public Fleets and Utilities, may also qualify to be eligible for these funds if they have been designated as a fleet located in a designated “low-population county” by the Executive Officer in accordance with the On-Road Fleet Rule for Public Fleets and Utilities (title 13, California Code of Regulations section 2022.1 (c)(4)).

**8. Are there limits to how much funding an agency may receive?**

ARB is proposing to limit funding for each agency's fleet to a maximum of \$500,000 for public agencies in low-population counties and \$1 million for all other fleets to ensure that more agencies qualify for funding. Using the definition for fleet in the On-Road Fleet Rule for Public Fleets and Utilities and in the proposed Off-Road In-Use Control Measure, an agency's fleet is considered the total of the equipment owned by a public agency or the total equipment under common ownership.

**9. Will the public agency be required to have a cost buy-in?**

ARB staff is proposing that all public agencies will be required to provide a minimum percent buy-in for each new purchase and repower. Staff is requesting comments on the appropriate minimum buy-in. A greater cost buy-in will make the funding go further. Agencies may contribute more than the minimum buy-in which will help lower the cost-effectiveness of the project, making it more competitive. Consistent with the Carl Moyer Program Guidelines, retrofits will have no cost share, however if an agency chooses to provide a buy-in, it would make the project more competitive.

**10. What is the proposed timeline for allocating the funds?**

|                  |   |   |
|------------------|---|---|
| February 1, 2007 | - | Release RFP                                     |
| March 1, 2007    | - | Applications due to ARB                         |
| May 1, 2007      | - | Select projects/ begin grant process            |
| June 30, 2007    | - | All grants signed                               |
| June 30, 2008    | - | All projects must be completed and in operation |

**11. How is ARB proposing to manage distribution of the funds?**

ARB staff plans to grant the funds directly to the public agencies selected for projects. A sample grant award agreement will be available in the RFP for agency review. The grant awards must be fully executed no later than June 30, 2007.

**12. Will there be a chance for additional public input?**

ARB staff will be presenting the final staff proposal to the Board at the December 7, 2006 Board Meeting in Bakersfield. The meeting will be available via webcast at [http://www.arb.ca.gov/app/calendar/cal\\_wbcst.php](http://www.arb.ca.gov/app/calendar/cal_wbcst.php). If you have questions regarding these concepts, please contact Ms. Edie Chang, Manager, Carl Moyer Off-Road Section, at (916) 322-6924 or by email at [echang@arb.ca.gov](mailto:echang@arb.ca.gov) or Ms. Johanna Levine, Air Pollution Specialist, at (916) 324-6971 or by email at [jlevine@arb.ca.gov](mailto:jlevine@arb.ca.gov)